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VIA-016-CIP  
Client Ref: VTA03-0033

PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant : Brian C. Banister )  
App. No. : 10/080,751 )  
Filed : February 22, 2002 )  
For : **METHOD AND APPARATUS FOR** )  
**GENERATING TRANSMIT** )  
**ADAPTIVE ANTENNA WEIGHTS** )  
**WITH NULLING USING BINARY** )  
**GRADIENT FEEDBACK** )  
Examiner : Unknown )  
Group Art : 2631 )

**RECEIVED**

JAN 06 2004

Technology Center 2600

ESTABLISHMENT OF RIGHT OF ASSIGNEE TO TAKE ACTION  
AND  
REVOCATION AND POWER OF ATTORNEY

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

The undersigned is empowered to act on behalf of the assignee below (the "Assignee"). The entire right, title and interest in, to and under the above-referenced patent application and related invention was originally assigned to LSI Logic Corporation, a Delaware corporation, having a place of business at 1551 McCarthy Blvd., Milpitas, CA 95035. The original Assignment to LSI Logic Corporation was recorded on August 7, 2002, at Reel 013164, Frame 0499 (copy attached). The entire right, title and interest in, to and under the above-referenced patent application and related invention was subsequently assigned by LSI Logic Corporation to the Assignee in an Assignment document executed October 23, 2003, being recorded concurrently herewith (copy attached). This represents the entire chain of title of the above-referenced patent application and invention from the Inventor to the Assignee.

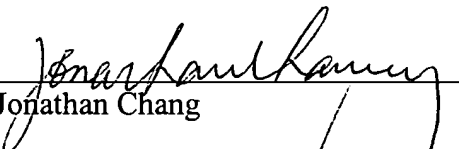
Atty. Docket : VIA-016-CIP  
App. No. : 10/080,751  
Filed : February 22, 2002

I declare that all statements made herein are true, and that all statements made upon information and belief are believed to be true, and further, that these statements were made with the knowledge that willful, false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001, and that willful, false statements may jeopardize the validity of the application, or any patent issuing thereon.

The undersigned hereby revokes any previous powers of attorney in the subject application, and hereby appoints the registrants of Jaquez & Associates, 750 B Street, Suite 2640, San Diego, California 92101, including **Martin J. Jaquez, Esq.**, Registration No. **38,060**, **Larry D. Flesner**, Registration No. **37,827**, **William C. Boling, Esq.**, Registration No. **41,625**, and **Erik M. Vieira**, Registration No. **53,723**, Telephone (619) 238-1814, as its attorneys with full power of substitution and revocation to prosecute this application and to transact all business in the U.S. Patent and Trademark Office connected herewith. This appointment is to be to the exclusion of the inventor and his attorney(s) in accordance with the provisions of 37 C.F.R. § 3.71.

VIA Telecom Co., Ltd.

Dated: DECEMBER 10, 2003

By:   
Jonathan Chang

Title: Chief Financial Officer and Director

Address: Zephyr House, Mary Street  
P.O. Box 709  
Grand Cayman, British West Indies

ASSIGNMENT

**COPY**

WHEREAS, I, **Brian C. Banister**, of 10354 Moselle Street, San Diego, California 92131, U.S.A.; hereinafter referred to as the Assignor, am the inventor of certain new and useful improvements in a **"METHOD AND APPARATUS FOR GENERATING TRANSMIT ADAPTIVE ANTENNA WEIGHTS WITH NULLING USING BINARY GRADIENT FEEDBACK"**

☐ for which an application is being filed herewith; and

☒ for which an application for a United States Patent was filed on **February 22, 2002**, and assigned U.S. Application No. **10/080,751**; and

WHEREAS, **LSI LOGIC CORPORATION**, hereinafter referred to as the Assignee, of 1551 McCarthy Blvd., Milpitas, California 95035, a corporation of the State of Delaware, is desirous of acquiring the entire right, title and interest in and to said new and useful improvements and in and to said application, and in, to and under any and all Letters Patent which may be granted on or as a result thereof in any and all countries:

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00), and other good and valuable consideration, the receipt of which is hereby acknowledged, I, said Assignor, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over to said Assignee, the entire right, title and interest in and to said new and useful improvements and said application and any and all continuations, divisions and renewals of and substitutes for said application, and in, to and under any and all Letters Patent which may be granted on or as a result thereof in the United States and any and all other countries, and any reissue or reissues or extension or extensions of said Letters Patent, and assign to and authorize said Assignee, to file in my name applications for Letters Patent in all countries, the same to be held and enjoyed by said Assignee, its successors, assigns, nominees or legal representatives, to the full end of the term or terms for which said Letters Patent respectively may be granted, reissued or extended, as fully and entirely as the same would have been held and enjoyed by us had this assignment, sale and transfer not been made.

DOCKET NO.: LSI-004-CIP  
LSI Ref: 01-002  
Appln. No. 10/080,751  
Filed February 22, 2002

Continuation-in-Part

AND I hereby covenant that I have full right to convey the entire interest herein assigned, and that I have not executed and will not execute any agreement in conflict herewith, and I further covenant and agree that I will each time request is made and without undue delay, execute and deliver all such papers as may be necessary or desirable to perfect the title to said new and useful improvements, said application and said Letters Patent to said Assignee, its successors, assigns, nominees, or legal representatives, and I agree to communicate to said Assignee or to its nominee all known facts respecting said new and useful improvements, said application and said Letters Patent, to testify in any legal proceedings, to sign all lawful papers, to execute all disclaimers and divisional, continuing, reissue and foreign applications, to make all rightful oaths, and generally to do everything possible to aid said Assignee, its successors, assigns, nominees and legal representatives to obtain and enforce for its or their own benefit proper patent protection for said new and useful improvements in any and all countries.

AND I hereby authorize and request the Commissioner of Patents and Trademarks of the United States and any official of any country or countries foreign to the United States whose duty it is to issue patents on applications as aforesaid, to issue to said Assignee, as assignee of the entire right, title and interest, any and all Letters Patent for said new and useful improvements, including any and all Letters Patent of the United States which may be issued and granted on or as a result of the application aforesaid, in accordance with the terms of this assignment.

IN WITNESS WHEREOF, I have hereunto set my hand and seal.

4/15/02  
Date

Brian C. Banister  
Brian C. Banister

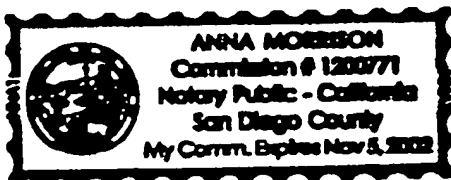
State of California ) SS:

County of San Diego )

On this 15 day of APRIL, 2002, before me personally came the above named BRIAN C. BANISTER to me personally known and known to me to be the same individual who executed the foregoing assignment, and who acknowledged to me that he executed the same of his own free will for the use and purposes therein set forth

Seal

Anna Morrison  
Notary Public



**COPY**

**ASSIGNMENT**

This Assignment is made by, Assignor, LSI Logic Corporation, a Delaware corporation to VIA Telecom Co., Ltd., Assignee, a Cayman Islands Corporation and having a place of business at 3390 Carmel Mountain Rd., San Diego, CA 92121.

WHEREAS, Assignor is the owner of the United States Patents and Patent Applications identified in the Assignment Attachment attached hereto and incorporated herein by this reference as though fully set forth at this point, and foreign counterparts to those patents and applications, as well as, continuations, continuations-in-part, divisionals, re-issues or re-exams, pertaining thereto (the "Patents") and the inventions covered thereby (collectively, with the Patents, the "Patents and Related Property").

WHEREAS, Assignee desires to acquire from the Assignor the entire right, title and interest in, to and under the Patents and Related Property.

NOW, THEREFORE, in exchange for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged by the parties, Assignor hereby sells, assigns and transfers to Assignee, the entire right, title and interest in the Patents and Related Property, including the right to file foreign applications directly in the name of the Assignee and to claim for any such foreign applications any priority rights to which such applications are entitled under international conventions, treaties or otherwise.

Further, Assignor agrees that Assignor will execute all documents and take all other reasonable steps that are required of it entirely at the cost of Assignee or Assignee's designees, which Assignee shall appoint within its sole and complete discretion, to assist in the perfection, completion of any application and preservation of each and every patent and/or application that is part of the Patents within a reasonable time after a request made by Assignee that Assignor do so.

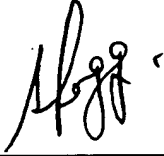
Assignor represents and warrants that it has not granted and will not grant to others any rights inconsistent with the Agreement for the Sale and Assignment of Patents between the Parties, executed March 11, 2003.

Assignor authorizes and requests the Commissioner of Patents and Trademarks of the United States and of all foreign countries to issue any Letters Patents granted for said inventions, whether on said applications or on any subsequently filed division, continuation, continuation-in-part, re-exam or re-issue applications, to Assignee, its successors and assigns, as the assignee of the entire interest in said invention.

IN WITNESS WHEREOF, Assignor has executed this Assignment on the date written hereinbelow.

Assignor

10/23/03  
Date

  
\_\_\_\_\_  
Sandeep Jaggi  
Chief IP Counsel and  
Assistant Corporate Secretary

## ASSIGNMENT ATTACHMENT

Single Chip Solution For Multimedia GSM Mobile Station Systems	08/653,675	5,799,091
Apparatus And Method For Shutdown Of Wireless Communications Mobile Station With Multiple Clocks	08/877,215	5,950,120
Apparatus And Method For Calibration Of Sleep Mode Clock In Wireless Communications Mobile Station	08/877,217	5,995,820
Method And Apparatus For Quick Acquisition Of Pilot Signals Using Bank Switching Method	08/955,499	6,091,762
Method And Apparatus For Acquisition Of The Strongest Pilot Signal	08/956,206	6,064,691
PN Sequence Hopping Method And System	08/969,219	5,987,056
Method And System For Preventing Information Losses During Alternative Frequency Searches.	09/031,078	6,169,752
Single Chip Solution For Multimedia GSM Mobile Station Systems	09/035,223	5,923,761
High Resolution Frequency Calibrator For Sleep Mode Clock In Wireless Communications Mobile Station.	09/049,962	6,088,602
Accelerated Base Station Searching By Buffering Samples	09/255,032	
Accelerated Message Decoding	09/280,778	
Determining the Received Data Rate in a Variable Rate Communications System	09/430,994	6,370,672
Method And Apparatus For Quick Acquisition Of Pilot Signals Using Bank Switching Method	09/436,998	6,445,727
Sequence Hopping of Gold Codes for Power Savings	09/440,770	
Sequence Hopping of Truncated Pseudo-Noise Sequences for Power Savings	09/441,321	
Narrow Band Analog System Searching with Wide Band Receiver	09/586,840	
Adaptive Antenna Method and Apparatus	09/632,081	
Frame Matching Method	09/686,786	
Method and Apparatus for Initiating a Reverse Link Intergenerational Handoff in a CDMA Communication System	09/687,199	
Reverse Link Inter-Generation Handoffs In CDMA Systems	09/687,201	
Frame Matching Method	09/687,700	
Forward Link Power Control During The Inter-Generation Handoffs In CDMA Systems	09/783,729	

Fast Feedback Channel With Flexible Bit Reliability For Wireless Communications	09/834,417	
Augmenting Existing Data Puncturing Pattern for Frame Matching	09/905,529	
Estimation of Forward Link Signal-to-Noise Ratio	10/007,383	
Digital Phase Equalization for CDMA Direct Conversion Receiver	10/033,642	
Inter-Chip Interference Reduction for CDMA Wireless Communications	10/033,799	
Method and Apparatus for Performing Cell Selection Handoffs In a Wireless Communication System	10/056,819	
Method and Apparatus For Applying Overlaid Perturbation Vectors for Gradient Feedback Transmit Antenna Array Adaptation	10/076,925	
Method And Apparatus For Improving Transmit Antenna Weight Tracking Using Channel Correlations In A Wireless Communication System	10/080,728	
Method and Apparatus for Generating Transmit Adaptive Antenna Weights With Nulling Using Binary Gradient Feedback	10/080,751	
TDM/TDM F-PDCH For Small Packet Size	10/099,815	
Multiple Transmit Antenna Weighting Techniques	10/197,965	
Transmit Antenna Multi-Mode Tracking	10/198,303	
VitaPhone: Method And Apparatus For Monitoring And Recording Of Vital And Ambient Functions And Transmitting Them Over The Air.	10/254,921	
Synchronization of Mobile Station Location Measurement With CDMA Service	10/264,021	
Enhanced Packet Data Connection	10/269,523	
Transition from Control Hold to Active State for CDMA System	60/378,919	
Fast Traffic Channel Reconnection with Base Station Assistance	60/379,375	
Power Control for the TDM/TDM or TDM/CDM Control Channels for Multiuser CDMA Packet Data Channel	60/386,979	



VIA-016-CIP



re application of: Brian C. Banister

Appln. No. : 10/080,751

Filed : February 22, 2002

For : **METHOD AND APPARATUS FOR  
GENERATING TRANSMIT ADAPTIVE  
ANTENNA WEIGHTS WITH NULLING  
USING BINARY GRADIENT FEEDBACK**

Examiner : Unknown

Group Art : 2631

COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Enclosed herewith please find the following documents with regard to the above-identified application:

1. Establishment of Right of Assignee to Take Action and Revocation and Power of Attorney, 2 pages;
2. Photocopies of two (2) Assignment documents in chain of title; and
3. Return prepaid postcard.

Dated: December 22, 2003

) I hereby certify that this correspondence and all  
) marked attachments are being deposited with the  
) United States Postal Service as first-class mail in  
) an envelope with sufficient postage addressed to:  
) Commissioner for Patents, P.O. Box 1450,  
) Alexandria, VA 22313-1450, on

December 22, 2003

(Date)

Barbara S. Kelly

RECEIVED

JAN 06 2004

Technology Center 2600

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